

ABSTRACT OF THE DISCLOSURE

The invention encompasses a semiconductor processing method of cleaning a surface of a copper-containing material by exposing the surface to an acidic mixture comprising Cl^- , NO_3^- and F^- . The invention also includes a semiconductor processing method of forming an opening to a copper-containing substrate. Initially, a mass is formed over the copper-containing substrate. The mass comprises at least one of a silicon nitride and a silicon oxide. An opening is etched through the mass and to the copper-containing substrate. A surface of the copper-containing substrate defines a base of the opening, and is referred to as a base surface. The base surface of the copper-containing substrate is at least partially covered by at least one of a copper oxide, a silicon oxide or a copper fluoride. The base surface is cleaned with a cleaning solution comprising hydrochloric acid, nitric acid and hydrofluoric acid to remove at least some of the at least one of a copper oxide, a silicon oxide or a copper fluoride from over the base surface.